

50X1-HUM

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SUPPLEMENT TO
REPORT NO.

THIS IS UNEVALUATED INFORMATION

STANDARD GASOLINE OCTANES BOOSTED

B. P. Kitskiy

Type A74 gasoline is nonethylated and differs little from the special auto gasoline produced under the GOST 3296-46 specifications.

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CLASSIFICATION		CONFIDENTIAL	
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The main physical and chemical properties of the new types of gasoline (GOST 2084-48) are shown in the table below.

<u>Physical and Chemical Properties</u>	<u>A66</u>	<u>A70</u>	<u>A74</u>
Octane number not lower than	66	70	74
Content in milliliters per kilogram of gasoline of P-9 ethyl liquid, not lower than	1.5	1.5	none
<u>Fractional Compound</u>			
a. Initial distillation temperature in degrees centigrade not lower than	--	--	35
b. 10 percent distilled at temperature not higher than	79	79	70
c. 50 percent distilled at temperature not higher than	145	145	105
d. 90 percent distilled at temperature not higher than	195	195	165
e. End of ebullition at temperature not higher than	205	205	180
f. Residue in retort, in percent, not larger than	1.5	1.5	1.5
g. Residue and losses, in percent, total not larger than	4.5	4.5	2.5
Vapor tension (Reyd scale) in mm of mercury, not over	500	500	500
Actual tar content in 100 milliliters of gas, in milligrams	10	10	6
Induction phase in minutes, not over	240	240	600
Sulfur content in percent, not over	0.15	0.15	0.1

Remarks

1. From October to February, production of Types A66 and A70 with a vapor tension not over 600 will be tolerated.
2. In Types A66 and A70 obtained from sulfurous petroleum, a sulfur content up to 0.6 percent and will be tolerated.
3. At consumer delivery points, (gas stations, etc.), the following modifications are tolerated for Types A66 and A70: an increase of the actual tar content up to 25 milligrams per 100 milliliters of petroleum; a one-degree increase of the 10-percent distillation temperature; a 2-degree increase of the intermediate distillation temperature; a 3-degree increase of the boiling temperature; and a 0.3-degree increase of residue in the retort.

The use of ethylated gasoline in transportation requires caution, since the ethyl liquid, even in small quantities, is a poison which, introduced in the human organism through the respiratory system and the integument, causes disturbances in the nervous system and even poisoning. Therefore, auto plants must provide hermetically sealed fuel systems to exclude the possibility of leakage from carburetors, fuel pumps, and lines. Scientific research institutes must solve the important problem of replacing tetraethyl of lead with a new, nontoxic and anti-knock compound.

The use of high octane gasoline demands a modernization of the old types of engines. To make their operation more economical, their compression must be increased, the shape of the combustion chamber modified, and the angle of spark advance changed.

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The improvements achieved must not be considered final. Petroleum refineries must ensure further improvement of the quality of gasoline by making the fractional compounds lighter, lowering the sulfur content, and increasing the physical and chemical stability. They must also organize the production of seasonal and zonal types of gasoline.

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